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ABSTRACT

This document reviews the status of graduate and professional education of women for 1974. The first section. a review of the literature, discusses background and current developments, the status of graduate education, reports concerning women in higher education, social factors and attitudes, institutional barriers, trends in specific disciplines, requirements of the law, and proposed solutions. The second section encompasses a 68-item bibliography on graduate and professional education of women. (MJM)

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Status of Graduate and Professional Education of Women--1974

A Review of the Literature and Bibliography

- Ruth M. Oltman, AAUW

A. Background and Current Developments

"While the desirability of women obtaining an undergraduate education is now universally accepted, . . . the value of graduate education for women is not--except in 'appropriate' fields" (Newman, 1973). There have been some changes over the past three years, data shows that women still seek the traditional graduate programs, overlooking many areas which are only gradually opening up to them, partly because of requirements of the law. It will take time for high school and college counseling and guidance publications to "catch up" with the changes occurring and to open broader educational and vocational fields for choice to women. APGA's (1970) own policy statement on "career decision-making that protects freedom of choice while enhancing wisdom of choice" needs full implementation at all levels but particularly at the graduate level. CEEB's (1974) study of college-bound seniors showed many more males than females planning on graduate study and twice as many females intending to complete only a two-year program. The reasons must be examined and the causes remedied.

1. Report on Graduate Education

To understand the problems of access of women to higher education and their retention in graduate programs, once they are admitted, it is necessary to look at the present status of graduate education itself and some of the recent studies which provide analysis of current general issues. Graduate schools have been criticized for failing to respond to the needs of society and of the new types of students seeking advanced training. The ETS report (1973) on the Panel on Alternate Approaches to Graduate Education examines these criticisms of "cultural lag" and makes recommendations for change. These include more discipline-related programs off campus; broader ways of evaluating out of classroom experience, faculty teaching, and curriculum; and increase in the admission of women and minority students who have been "hitherto discriminated against." "The politics of graduate education reflect the influence of a discriminating society," the report states. These recommendations would necessitate some major changes in procedures and attitudes, particularly toward part-time and more flexible programs of study, and new concepts of the role of the graduate faculty. They also would benefit women.

The decline in Federal financing of graduate education and research and of graduate students has been a matter of much concern because of the threat of erosion of quality graduate programs and reduction of research capabilities. In its report on Federal policy alternatives the National Board of Graduation Education (NBGB, 1974) outlines the importance of graduate education scholarship and research to both the university and society, and makes recommendations for a positive program of Federal support. These include assuring that "graduate education contributes to the National commitment to eliminate discrimination based on race, sex, age and socio-economic status."

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In another NBGB study (1973) recommendations are made for long-term Federal commitment to doctorate manpower needs. Competitive fellowships to meet the needs of the most academically talented young people are suggested. The report also recommends that the numbers of minority group members and women employed in professional and faculty positions be increased.

The National Science Foundation did a survey (NSF, 1973) of manpower resources and support of graduate science education in the fall of 1971. This demonstrated a decline in enrollment of both U.S. and foreign students and a reduction in research and teaching assistantships, as well as in Federal support.

Derek Bok's presidential statement on graduate education at Harvard (Bok, 1973) illustrates the status of graduate programs on one campus, how it dealt with the drastic cuts in Federal funding, made changes in curriculum to fill social changes, and attempted to analyze and solve the problems of attrition.

Report No. 4 of the Newman Task Force II (Newman, 1973) examines the growth of American graduate education and reasons for Federal cutbacks, based on overall manpower evaluations. It recommends ways of focusing the Federal role sharply on excellence and reform through several kinds of incentives to students and institutions and redistribution of funding. "The Federal Government in the 1970's must become concerned with the kind and quality of graduates leaving the nation's universities . . . and seek to redirect graduate education to new social needs," it concludes. In awarding the "portable" fellowships in national competition suggested, "women would be awarded fellowships on equal terms with men. An individual dean or department chairman would not be in a position to play favorites . . . . To refuse admission to a woman fellowship holder would involve a clear cost . . .--the companion grant she would bring with her. If her family circumstances required her to change institutions, she would take both fellowship and companion grant to another university. It is hard to believe that her claims for help in obtaining housing or with her children would go unheard as frequently as present." The reply of the NBGE (Chronicle, 1973) is that "women are underrepresented in graduate schools primarily because fewer of them apply" and that "acceptance rates for men and women are about the same." Solmon (1973) makes a similar conclusion.

2. Reports on Women in Higher Education

One of the most comprehensive studies of opportunities for women in higher education is found in the Carnegie report (1973), which contains seven specific recommendations regarding women in graduate study. These relate to non-discrimination in admissions, equal recruiting efforts, support of part-time study, flexibility in time limits for degree completion, equity in awarding fellowships or in appointing teaching and research assistants, provisions for the mature woman returning for graduate study, and positive attitudes on the part of faculty toward the serious pursuit of graduate study and research by women. Responsibility of the university for child care services is recommended in another chapter. A Women's Bureau survey (USDL, 1973) of programs for children on campus found that an estimated one out of four campuses had a day care center nursery or laboratory school program, 80% of which charge a fee.

At its annual meeting in 1972 the Council of Graduate Schools (Ryan, 1972), Scott and Rumbarger provided interesting new data on women in graduate education. "In the high prestige universities," says Scott, "the percentage of women faculty in any department tends to be much smaller (often zero) than the percentage of graduate students who are women." "The facts on women graduate students tend to belie the myths." "We should not talk of diluting standards," Rumbarger states, "but rather look forward to the transfusion which these persons [women] can give to our intellectual life."

In "Beyond the Open Door," Cross (1971) examines the access of educational opportunity to various groups and some of the projects developed to increase that access. In considering women as "new students" she believes that "numerically women constitute by far the largest reservoir of youthful talent not presently continuing education beyond high school," particularly in the lower economic levels.

Feldman's comprehensive research reported in "Escape from the Doll House" (Feldman, 1973) examines four aspects of inequality in graduate education. First, women have been channeled into academic disciplines which are traditional and of low power and prestige. Then, women have lower academic goals and have a less positive self-image than men and are less likely to be in the prestigious universities. The dedication of women to academic achievement is traditionally seen as less than than of men and marriage is considered an impediment creating conflict but "given equal opportunity, any differences in dedication disappears," he finds.

A research survey on graduate school admissions is available from ERIC (Harvey, 1971).

B. Social Factors and Attitudes

Social factors and attitudes of men towards women and women towards themselves create most of the problems which women experience in seeking an education and in using it fully. Higher education has yet to see its responsibility for the reeducation of learned social roles which operate to distort the image of women and restrict the contributions which women have to make to higher education and to society.

Considerable research has been done to dispel prevailing myths and to define the influencing factors. Astin's study (1969) clearly demonstrated that women with the doctorate do use their training and that "once a woman decides to invest herself, her time, and her energy in pursuit of specialized training, the likelihood of her maintaining a strong career interest and commitment is very high." Renshaw and Pennell (1969) found similar results in their survey of women with the M.D. degree, most of whom were practicing physicians.

Frankel (1974) found a close correlation between self-concept and attitudes toward femininity. If the latter is seen as requiring passive and dependent behavior, the self-concept is likely to be negative, with goals and behavior which is non-achievement oriented and "other"-directed. Findings for undergraduate and alumnae women used for the survey were similar. This adds another dimension to Horner's observations (1969) on woman's "will to fail."

Lavine (1973) sees the move by women to law schools as motivated by the desire to reconcile the conflict between fear of social disapproval and professional success in a field which will help to fulfill the social ideals of the female. Law provides a fusion between the aggressive trait and the helping role usually associated with women. But should this not, then, be equally true of medicine?

Attitudes of counselors reflect the stereotypes of social roles. Collins and Sedlacek (1974) found systematic differences in how counselors perceive their male and female clients. Men were seen as having more vocational-educational problems than women and women more often to have emotional-social problems. Whether these are real differences or the result of counselors' expectations and stereotypes, the attitudes do affect significantly how women are counseled.

Much has been said about "role models" and the value of these to women in higher education. Tidball's study (1973) confirmed this on a statistical basis. She found that the number of successful career graduates to be directly proportional to the number of women faculty in the achievers' undergraduate institutions at the time they were students. A disproportionately high number of women achievers came from women's colleges. Conversely, the higher the percent of men students enrolled, the smaller the number of women achievers. Campus career conferences, such as that described by Plotsky and Goad (1974) are planned, in fact, to "provide exposure to professional women who served as role models--temporary 'significant others' for the undergraduate women." They found that some graduate women in non-traditional departments felt particularly isolated and in need of supportive role models.

Another aspect of the graduate woman's problem is her relationship as a scholar to her male peers and professors. The Holstroms (1974) examined some of the factors

which contribute to emotional strain and self-doubts among women doctoral students. Analysis of Creager's data (1971) demonstrated that faculty attitudes and behaviors contributed significantly. Interaction with faculty, though related to general satisfaction with graduate school for both men and women doctoral students, was significantly less for women students. Again, "role models" of women faculty may contribute to the solution, as well as a change in the "climate of expectation."

Kjerulff and Blood (1973) study confirms the Holstrom findings. "In terms of communication with professors, women graduate students do seem to be at a disadvantage in comparison with their male peers. They saw their research advisors less often, especially outside of the office context, and had fewer discussions with their research advisor." "Female graduate students thus miss out on a type of informal communication which could be helpful both in terms of acquiring research information and developing feelings of belonging in the field and acceptance as a colleague." Verbal communication thus is seen as related to research activity, stress tolerance, and attrition in graduate school.

Feldman's (1974) chapter on "External Constraints," analyzes the traditional relation between marital status and graduate education, as "life outside of graduate school may have a strong effect on life within it." While at one time pursuit of a career as a scholar was possible only for spinsters, it is interesting to note that 55% of the women receiving doctorates in 1972 were married (NRC, 1973). Feldman's data shows that "if graduate women do marry, they are much more likely than men to have a spouse with graduate education." Family circumstances or pressure from the husband often force primacy of family over a career or even may cause divorce.

(See also conference papers by Sheila Tobias, Martha Kent, and Linda Hartsock.)

C. Institutional Barriers

In March, 1974, a conference was held on the Douglass College campus on "Part-time Graduate Study: New Roads to a Degree" with particular reference to its value to women. While full-time graduate study has its advantages, generally the life-patterns of women do not adapt to it and a more flexible structure is needed. This restriction to full-time graduate study at many institutions and the practice of granting financial aid only to full-time students are two of the major barriers to women's pursuit of education beyond the baccalaurate degree. Douglass has prepared a useful resource book on part-time opportunities for graduate and professional study in the states of Delaware, New Jersey, New York and Pennsylvania.

Pitchell (1974) has reported that of all students enrolled in post-secondary educational programs, more than half are studying part-time, the majority of whom are women. He has proposed that we can no longer overlook the financial needs of these students and suggests seeking Federal support if we are truly committed to the concept of life-long learning.

Sells (1974) reports that women at the University of California who once had a drop-out rate twice that of men now complete their doctorates as often as men. Her project grew out of a concern for understanding the psychological and social factors contributing to the high drop-out rate of women. Among the problems women experienced were progressive demoralization by lack of acceptance by faculty as colleagues, negative faculty attitudes toward women, and ambivalence and conflict in women's own feelings about careers. Suggested were seminars of peers to discuss their problems, when preparing for exams and when writing dissertations.

Burstyn (1973) has reviewed the experiences of women at Carnegie-Mellon University as a result of administrative decisions which have had profound effect on their opportunities. Programs attracting women, such as social work and library science, were terminated and, in 1973, Margaret Morrison College for Women was abolished. In 1970-71 women received fewest degrees in the Graduate School of Industrial Administration, where there were only two faculty women. Only five other women taught in the graduate school. The percentage of women receiving master's degrees fell from 20% to 9% from 1946 to 1970, due principally to the structural changes in the university.

Davis (1973) describes some of her own experiences in graduate school which led to conclusions concerning informal structures of universities as they affect women, such as prejudging the attrition potential of women, counseling women to take the M.A. "just in case," greater interaction of male students with professors, criteria for awarding fellowships, placement differentials and, again, lack of female role models.

Clifford and Walster (1970) sent 240 college and university applications for admission which were identical at three ability levels, varying only by race and sex. Males were found to be markedly preferred at low levels, although this preference levelled off at higher levels.

The National Commission on Financing Post Secondary Education, in a recent report (Mathews, 1974), found that an "equal chance to attend college is still denied prospective students from low income families, racial and ethnic minorities, large cities and rural areas, and women." Chalmers (1972) examined the complex reasons for the proportionately fewer women than men in higher education and raises the

question as to "what is the obligation of graduate and professional schools sincerely committed to the elimination of discrimination." He suggests raising questions regarding bias wherever indicated and developing compensatory recruitment programs.

In reviewing the potential of non-traditional graduate admissions, Brown and Gregg (1973) look at the traditional methods which have merit but also at the increasing numbers of new students--minorities, women reentering education, mid-career persons who must be served, and at the factors which require non-traditional approaches--such as increased student mobility and competencies not learned in the classroom. They raise the basic question: "Can an elitest institution, graduate education, react to the broad social pressures to meet the needs of our modern society without finding it essential to redefine its mission and modes of operation?"

Finally, Harvey (1971) sums up the major issues in graduate school admissions and reasons for non-entry, reviewing the relevant literature. Procedures used for evaluation are surveyed and criteria for admission are examined. Sex and academic performance are noted to be significantly related to application. "Women, though better students, are not enrolling in proper proportions . . . . If graduate schools are interested in attracting the best students, women should not be discouraged" as they often are. "The impression exists that the admissions process on the graduate level is haphazard if not indeed capricious," he states. Suggestions are made for improving this process.

D. TRENDS IN SPECIFIC DISCIPLINES

The annual report on doctorate recipients prepared by the National Research Council (see NRC, 1973) for the first time in 1973 included a complete analysis of data on women. 16% of those receiving doctorates in 1972 were women, following a slow increase since 1954, when the percentage was a low 9.1, although it had been 16.8 in 1929! In 1972 the median age for women receiving the doctorate was only 2 years higher than for men and the time lapse since the baccalaureate also only 2 years more. Actual enrollment time, however, was about the same. 55% of the women were married. (See paper by Clarebeth Cunningham of NRC).

Enrollment of women in the professional schools has increased over the past few years, in some instances dramatically. Examples from several of the disciplines will demonstrate.

In medicine the increase in enrollment has been the result of both legal requirements (Health Manpower Act of 1971) and Federal incentives for the expansion of total medical school enrollments (Spingarn, 1974). Women represented 16.8% of all first year medical students in 1972-3 as compared to 9.0% in 1968-9 (Dubé 1974) and estimates are as high as 19% for 1973-4. This increase has not been at the expense of male students, whose numbers also have increased, but at a slower rate. A number of schools are taking a larger percentage of women than men applicants because they already are a more selective group. Eastern Virginia Medical School recognizes that better counseling and encouragement is needed for women in considering medicine as a career. The Medical College of Pennsylvania has launched a part-time residency for currently inactive women M.D.'s to get them back into the main stream of medicine; New York University has a part-time residency in psychiatry. (See report prepared by Dr. Margery Wilson of AAMC.)

While more women than men drop out of medical school for non-academic reasons (for academic reasons they are similar), there appears to be no study of the reasons or whether some of these women might, with counseling or assistance, return. Spingarn (1974) reports that women rejected for admission "represent a much greater intellectual and financial loss to health and medical care, to society, and to themselves." While most rejectees do go into graduate school, (74% men, 42% women) women turn to fields such as laboratory technology or choose other careers with lower educational requirements. Like the men, they report little help from their college advisers at the time of rejection.

Pharmacy has always had a fairly high percentage of women. In September of 1973 women made up 27.3% of the 73 schools of pharmacy in the U.S. In addition 25.8% of those in master's program were women and 14.7% of those in doctorate programs (Bliven 1974).

Engineering has been seen less as a woman's field, and women with a liking for science and mathematics often are not guided to consider engineering as a vocation. From 1960 to 1971, however, the % of women receiving engineering degrees increased from 0.38% to 0.82% and the number of master's and doctor's degrees increased more than seven fold (Kotel 1973). Women tend to concentrate in chemical engineering more than in mechanical or electrical; they also work more in research, development and design than in production, construction or management. Recently engineering schools have been making direct appeals to interest women in engineering - Stanford, e.g., has a special pamphlet to recruit women (Stanford, 1973). Enrollment of women in engineering schools in the fall of 1972 was up to 2.3% of totals in undergraduate and graduate programs.

The National Science Foundation Highlights (NSF, 1973) provides data from the 1972 Professional, Technical and Scientific Manpower Survey (from 1970 Census) on sex, age and educational attainment of persons in 5 engineering and scientific occupational groups. While women represent less than 1% of the engineers, they make up 27% of the mathematicians, 18% of the life scientists, 9% of the physical scientists, 19% of social scientists.

Perhaps the field of law shows the greatest increase in enrollment of women students over the past few years, the number of first-year students showing a 35.2% gain in the fall of 1973 over 1972. 16% of all law students were women (ABA 1974). As in medicine, percentage of women applicants accepted was greater than of men, as the pool was more selective. Schools varied, however, from less than 10% women to as much as 30% in a recent study by Byciewicz (1973). Many have an affirmative action program to recruit women and/or sent recruiting materials to college placement offices to encourage female applicants. Women, however, generally received less financial aid than men but were granted more loans. Fewer women dropped out for academic reasons than men, with a slightly higher percentage of women withdrawing for reasons of financial or family responsibilities. Only one law school reported the existence of a day care center.

At a meeting of the American Economic Association in December, the women's committee commented on the grossly disproportionate percentage of women (less than 10%) who were economists. While recognizing that many social factors create this proportion, "this does not excuse the economics profession from setting in motion processes which will raise its proportion of women" and compensation for this "economic loss to society." (Chronicle of Higher Education, 1974).

A report on "The Status of Women in Sociology, 1968-1972" (Hughes 1973) states that only 1 of every 100 women with a bachelor's degree in sociology goes on to a doctorate as compared to 10 or 11 men. The final statement in this report can well apply to all the professions:

> "Many of the discriminatory practices which have held them back are, as has been shown, not there by intention but as a by-product of certain features of our social institutions, including a whole set of now inappropriate role expectations. But to remove the differentials in the opportunities and rewards open to men and women may not be enough. Changes in practice should be accompanied by re-socialization to modify attitudes and behavior -- a process to which, perhaps more than anything else, the Committee's report was intended as a spur. The time to engage in these transformations is pricisely now when increasing numbers of women are entering the academic profession. Although awareness of inequalities is at present sharp, the time is not yet when all sociologist will respond to each other qua sociologists, ignoring sex or ethnic identity in situations where occupation is the only relevant basis of social status. 'Liberated' sociologists, men or women, are those fully engaged in the profession in a social context that enables each to contribute to his or her fullest capacity. There are social and personal costs involved in the redefinition of roles but the gain to society at large and to the individual sociologist will be incalculable."

E. Requirements of the Law

These will be reviewed in a separate conference paper on graduate schools, prepared by Bernice Sandler. Her article in the Journal of Law and Education (1973) states the general issues and laws which affect women in higher education. Scott (1972) cites some of the problems which will be challenged by Education Amendments of 1972, such as rigid admissions and length-of-residence requirements, admissions quotas in departments and programs, state residence requirements, lack of housing for women, inequitable distribution of financial aid.

Hosken's testimony (1973) to the House Ways and Means Committee raises the serious question of tax-exemption for institutions which discriminate. The tax issue could become as important a control in compliance cases as government contracts. Accreditation also is an issue--whatever the academic merit of an institution, should it be accredited if it is not providing quality education for all of its students? Discrimination on campus is now an educational, social and legal matter.

Fields (1973) article describes the action of the U.S. Office of Civil Rights last year in notifying "graduate and professional schools and some public undergraduate schools that they must begin applying non-discriminatory admissions policies by June 24," 1973, in accordance with the Education Amendments of 1972. Formal regulations for these amendments have yet to be published by HEW, nearly two years after their passage.

In analyzing the Education Amendments of 1972 and how they may affect women, Temko (1973) cites specific cases, "A prima facie case of discrimination may be established by showing a substantial disparity between the percentage of women (and men) in a given institution. A question arises as to whether the population to be used as a comparison is the percentage of the class in the general population or the percentage of the class that is eligible or qualified for the particular institution or activity. The cases show that both figures have been used. The Education Amendments of 1972 would specifically permit the introduction of statistical comparisons with the total number or percentage of persons of a particular sex in a geographical area." "Statistical evidence of underrepresentation establishes a rebuttable presumption of discrimination," she states, but "mere protestations that discrimination was not practiced will not suffice to rebut this presumption." Equally, courts have held that policies neutral on the surface which perpetuate discrimination violate the equal protection clause. Temko's presentation provides strong legal precedents for enforcement of the Amendments.

F. Proposed Solutions

Definitions of some solutions to the problems raised in this conference will, of course, be its major task. Some of these solutions are suggested in the two Carnegie reports and in many of the recommendations of the studies cited. They appear to include the following areas:

1. Enforcement of the law--contract compliance, tax exemptions, fines, assurances, accreditation.

2. Admissions--affirmative methods of recruitment, use of merit criteria, elimination of quotas.

3. Counseling--academic and personal.

4. Non-traditional programming and flexible scheduling.

5. Part-time study.

6. Part-time financial aid.

7. Provisions for child care.

8. Models of successful professional women.

9. Attitudes of faculty and peer students, acceptance of women as academic equals.

The development of our positive recommendations and models should make a significant contribution to new opportunities for women in graduate and professional education.

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